tecture with the metal oxide substantially uniformly distributed throughout the nanoarchitecture.

7. The nanocomposite material of claim **1** wherein the graphene layer comprises functionalized graphene sheets.

8. The nanocomposite material of claim **1** wherein the graphene layer consists essentially of 6 to 29 graphene sheets.

9. The nanocomposite material of claim **8** wherein the graphene layer comprises functionalized graphene sheets.

10. The nanocomposite material of claim **4** wherein the titania is in a mesoporous form.

11. The nanocomposite material of claim **4** wherein the mesoporous titania is in a rutile crystalline structure.

12. A method comprising:

   providing graphene layers in a first mixture, the graphene layers having a first surface and a second surface and thicknesses of 0.5 to 50 nm;

   dispersing the graphene layers with a surfactant;

   adding a metal oxide precursor to said dispersed graphene layers to form a second mixture;

   precipitating the metal oxide from the second mixture on surfaces of the dispersed graphene layers to form a nanocomposite material comprising a metal oxide bonded directly to the first and second surfaces of a graphene layer; and

wherein the precipitating the metal oxide further comprises condensing the metal oxide at a temperature of less than 100° C. to form rutile crystalline metal oxide bonded directly to the first and second surfaces of the graphene layer.

13. The method of claim **12** wherein the metal oxide comprises tin oxide.

14. The method of claim **12** wherein the metal oxide comprises titania.

15. The method of claim **14** wherein the titania is mesoporous.

* * * * *